

15/42

DART AEROSPACE LTD	Work Order:	24341
Description: Cover	Part Number:	D3138-2
Dwg: D3138 Rev. B D	Qty:	A 10 2
05.12.08		Page 1 of 1

PER QSI 042

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	AD	05.09.26	A10
2	PG	Issue P/O: 2008728 Email or Ship DXF file to vendor Laser Cut D3138-2 flat pattern per Dwg D3138 Possible Supplier: GFI or Industrial Laser Material release note is required	AL	05/09/27	10
3	RG	Receive and Inspect for transit damage Enure material release note is attached	CL	05/11/18	10
4	QC6	Inspect dimensions as per Dwg D3138	J	05-11-28	10
5	GA	Deburr	PL	05/12/05	10
6	GA	Bend as per Dwg D3138	JB	05/12/05	10
7	QC5	Inspect work to Step 6	J	05-12-13	3
8	FP	Chemical Conversion Coat per QSI 005 4.1	G.M	06-03-21	3
9	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) per QSI 005 4.3	WJ	06 03 21	3
10	QC3	Inspect Powder Coat	DL	06/03/22	3
11	ST	Identify and Stock with part number and batch number using fine point permanent ink marker as per view B-B top surface Dwg D3138	DL	06/3/22	3
12	AC	Cost / part: 5786	DL	06/3/22	(3)
13	DC	Close W/O Inspect Level 21	W	06-03-23	(3)

Rev	Date	Change	Revised By	Approved
A	02.05.24	New issue	NG	
B	04.11.29	Made by Laser Cut	KJ/RF	

RELEASED
04/11/30

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector	
05-11-29	4	New dimension added too Dwg. permanent change <i>J</i>				<i>J</i> 05-11-29	<i>2</i> 05-11-29	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒

06/03/03
Date: _____

NOTE: Date & initial all entries

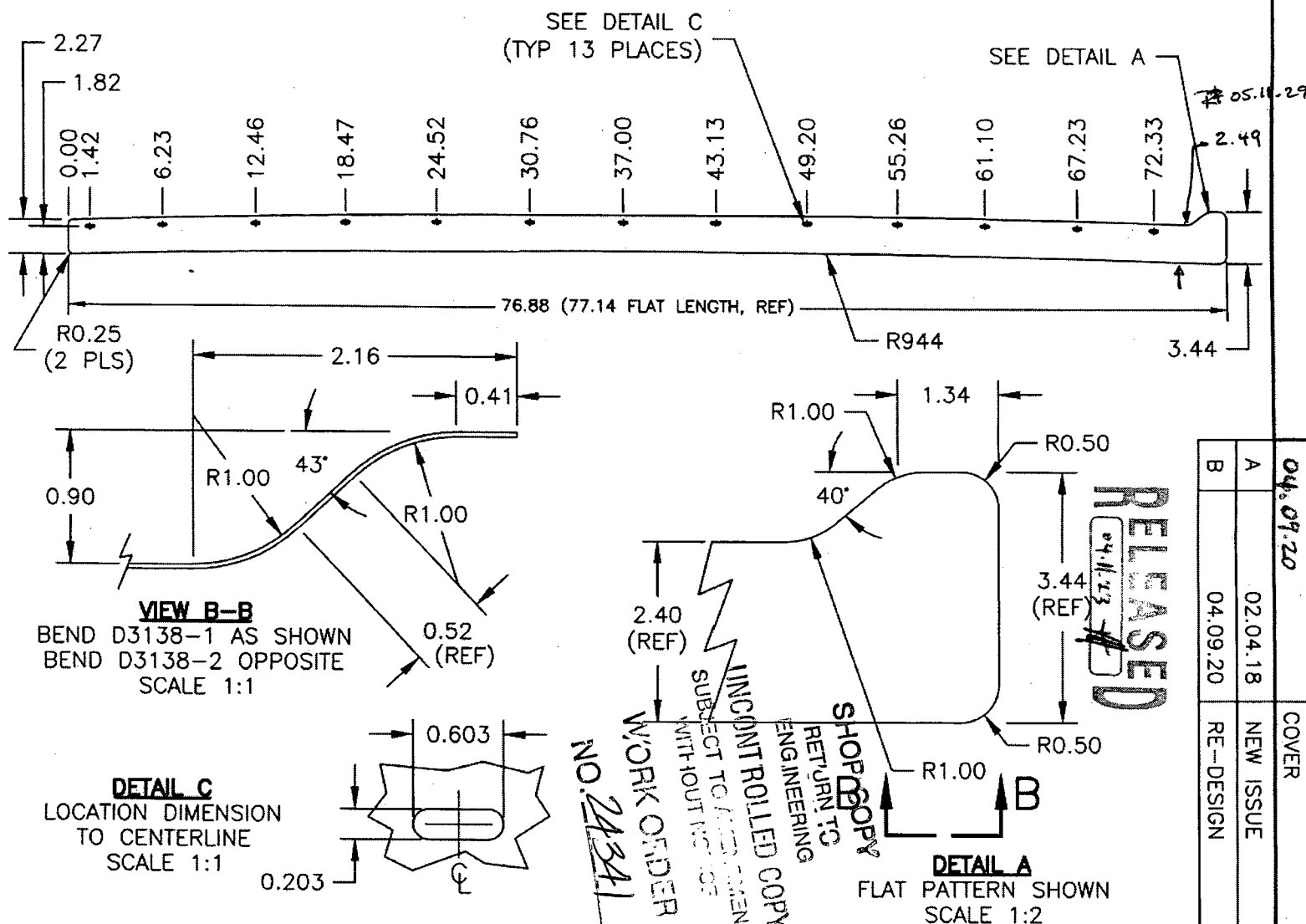
QA: N/C Closed: _____

Date: _____

DART



DESIGN	DRAWN BY	DART AEROSPACE LTD
1st	1st	HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
1st	1st	D3138
DATE	TITLE	SHEET 1 OF 1
04.09.20	COVER	SCALE 1:10
DESIGN	DATE	REV. B
A	02.04.18	NEW ISSUE
B	04.09.20	RE-DESIGN



D3138-1 COVER (SHOWN. REPLACES PREMIER P/N B30-23000-205)

D3138-2 COVER (BEND OPPOSITE. REPLACES PREMIER P/N B30-23000-206)

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC. M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Sep 26, 2005
10:48 am

Work Order No : 0024341
Project Name : D3138-2
Project For : WK542
Work Order Type : Main
Main WO Number :
House Part Number : D3138-2
Description : Cover
Manufactured : Yes
Amount Req'd : 4
Amount Done : 0
Start Date : 09-26-05
Est Finish Date : 10-15-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Mark Up : 0.000%
Actual Mark Up : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00

CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE



Membre de / A Member of **Thomas & Betts**

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. **1** OUR JOB NO **J0133548** SHIPPING MEMO **0324608**

ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
1	10 PCS	2008720	D3138-2		COVER	B

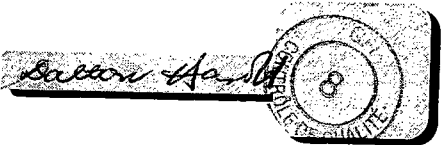
MATERIAL **AL 2024-T3 (QQ-A-250/4)** SUPPLIED BY **SAMUEL SPECIALTY** MAT. REL. NO. **0058764 ATT'D**

	PROCESS	PROCESSOR	RELEASE NOTE #
1			
2			
3			
4			
5			
6			
7			
8			
9			

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE **15 NOVEMBER 2005**

G.F.I. Q.C. REP.



233

**LES MÉTAUX
SPÉCIALISÉS**
SAMUEL

Programme d'Assurance Qualité Enregistré / Registered Q.A. Program
ISO 9001:2000 AS9100

LETTRE DE CONFORMITÉ - LETTER OF COMPLIANCE

Date: 10 MAI 2005

Company Name: G.F.I. Division of Thomas & Betts limited
Address: 180 avenue Labrosse
City: Pointe Claire, Qué.
Zip Code: H9R 1A1

du client: 0058764

de commande SSMQ: 841339

Customer's order #:

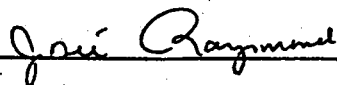
SSMQ's Order #:

La présente est pour certifier que le matériel détaillé ci-dessous est conforme aux exigences de votre commande et des normes du grade tel que décrit:

The following is to certify that the material listed below meets your order requirements and grade standards as described:

Notre/Our Item #	# de pièces/ # of pieces	Épaisseur/Grandeur Guage/Size	Alliage/Trempe Alloy/Temper	Spécification / Specification	Lot/Heat
7	1	.032" x 48" x 144"	2024 T3	AMS-QQ-A-250/4	226511

Bien à vous,
Yours truly,



Commis à l'administration.
Administration Clerk.



SHIP TO: LES METAUX SPECIALISES SAMUEL (SHIP TO) 21525 CLARK GRAHAM BAIE D'URFE, PQ, CA H9X3T5	
SOLD TO: SAMUEL SON & CO LTD 2225 FRANCIS HUGHES LAVAL, PQ, CA H7S1N5	
CUSTOMER PO NUMBER: N16221	CUSTOMER PART NUMBER:
KAISER ORDER NO: 1008983	LINE ITEM: 1
WEIGHT SHIPPED: 3928 LB	QUANTITY: 173 PCS EST.
SHIP DATE: 9-JUL-2004	B/L NUMBER: 202031
SHIPPING RUN #/LOAD ID: 100089/2	GOVT CONTRACT NUMBER:
ALLOY: 2024	CLAD: BARE
GAUGE: 0.0320 IN	WIDTH: 48.00 IN
TEMPER: T3	LENGTH: 144.000 IN

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4011938

Certified Specifications

AMS 4037/RevN

AMS-QQ-A-250/4/RevA

ASTM B 209/Rev04

Test Code: 1504

Test Results

Lot: 226511 Cast

Drop

Ingot

Tensile:	Temper	Dir / # Tests		Ultimate KSI (MPA)		Yield KSI (MPA)		Elongation %				
	T3	LT / 2 (Min:Max)		67.4 : 67.6 (465 : 466)		45.2 : 45.3 (312 : 312)		17.8 : 18.3				
Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	TOT	OTHER
Actual	0.08	0.22	4.46	0.55	1.32	0.01	0.17	0.01	0.01	0.00		0.06

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024 MIN	0.00	0.00	3.80	0.30	1.20	0.00	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

CERTIFICATION

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772 (MIL-H-8088). ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. ISO-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poy

Date: Thursday, 11/17/2005 1:14:26 PM
 User: Linda Lacelle

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	COVER
Job Number :	24341		
Estimate Number :	10629		
P.O. Number :		Part Number :	D31382
This Issue :	11/17/2005	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D3138 REV B
First Issue :	/ /	Project Number :	
Previous Run :		Drawing Revision :	B
	Type :	Material :	
	PURCHASED PARTS	Due Date :	11/30/2005
Written By :		Qty:	10
Checked & Approved By :		Um:	Each
Comment :	Est Rev: B 04.11.29 Made by Laser Cut KJ/RF		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
-----	----	------------

**Comment:** PURCHASING

Issue P/O: _____

Email or Ship DXF file to vendo

Laser Cut D3138-2 flat pattern per Dwg D3138

Possible Supplier: GFI or Industrial Laser

Material release note is required

2.0	D31382F	Cover
-----	---------	-------

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------

**Comment:** PACKAGING RESOURCE #1

Recieve & Inspect for Transit Damage

Ensure Material Release Note is attached

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------

**Comment:** DIMENSIONAL CHECK

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
-----	-------------	-------------------------------

**Comment:** SMALL & MEDIUM FAB RESOURCE 1

Deburr

Bend as per Dwg D3138

6.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
-----	-----------------	----------------------------

**Comment:** HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Date: Thursday, 11/17/2005 1:14:26 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: COVER

Job Number: 24341

Part Number: D31382

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock with part number and batch number using fine point permanent ink marker as per view
B-B top surface Dwg D3138

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
11:44 am

Work Order No : 0024341
Project Name : D3138-2
Project For : WK542
Work Order Type : Main
Main WO Number :
House Part Number : D3138-2
Description : Cover
Manufactured : Yes
Amount Req'd : 10
Amount Done : 0
Start Date : 09-26-05
Est Finish Date : 10-15-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

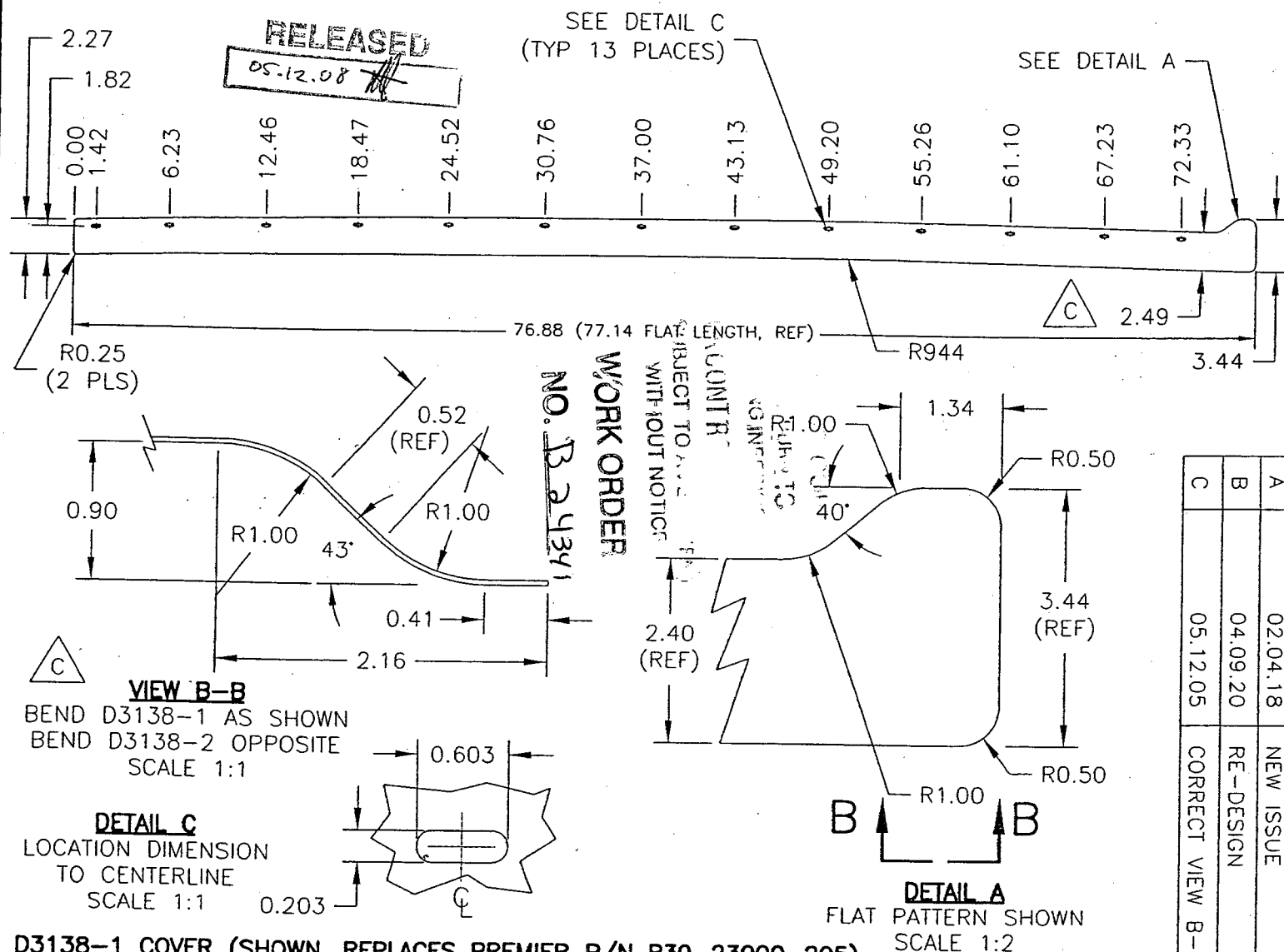
Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Margin : 0.000%
Actual Margin : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



DESIGN	DRAWN BY	DART AEROSPACE LTD		
CP	RF	HAMKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED	DRAWING NO.	REV. C	
		D3138	SHEET 1 OF 1	
DATE		TITLE	SCALE	
05.12.05		COVER	1:10	
A	02.04.18	NEW ISSUE		
B	04.09.20	RE-DESIGN		
C	05.12.05	CORRECT VIEW B-B; ADD 2.49 DIM.		





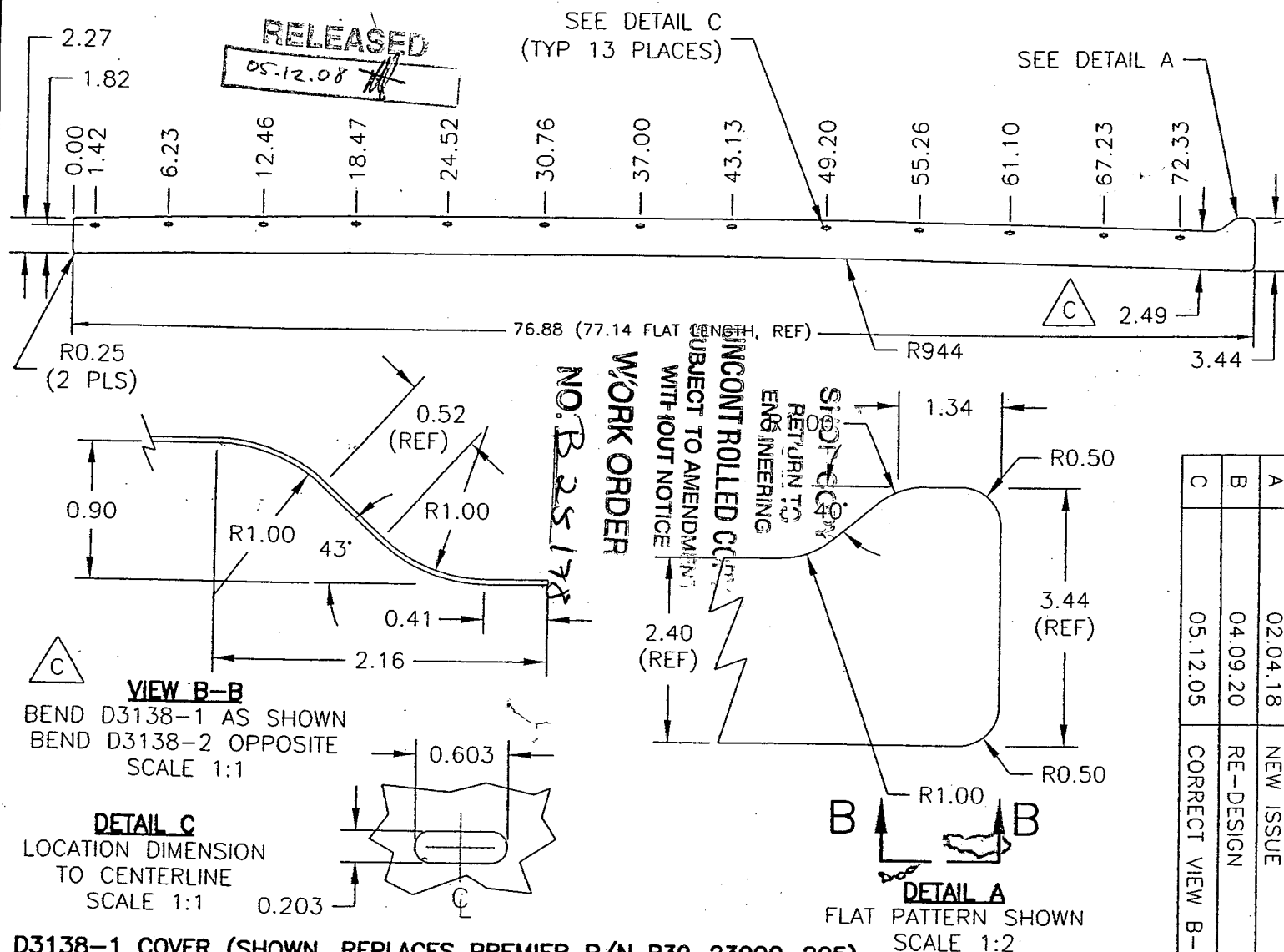
D3138-1 COVER (SHOWN, REPLACES PREMIER P/N B30-23000-205)

D3138-2 COVER (BEND OPPOSITE, REPLACES PREMIER P/N B30-23000-206)

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC. M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

REV. C

DESIGN CP		DRAWN BY RF		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED		APPROVED		DRAWING NO.	REV. C
DATE				D3138	SHEET 1 OF 1
05.12.05				TITLE	SCALE
				COVER	1:10
A		02.04.18		NEW ISSUE	
B		04.09.20		RE-DESIGN	
C		05.12.05		CORRECT VIEW B-B; ADD 2.49 DIM.	



D3138-1 COVER (SHOWN. REPLACES PREMIER P/N B30-23000-205)

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